

### **Remarks**

Claims 1, 2, 5-34 and 37 are pending in the present application after entry of this amendment. Claims 3, 4, 35, and 36 have been canceled. It is respectfully submitted that the pending claims define allowable subject matter.

Initially, Applicant wishes to thank the Examiner for indicating claims 16-19 to be allowable if rewritten in independent form.

Claims 1-4 and 33 have been rejected under 35 USC § 112, second paragraph for being indefinite. Claims 1, 2, and 33 have been amended to address the rejection. Claims 3 and 4 are canceled. Accordingly, Applicant requests that the rejection be withdrawn.

Claims 34-35 are rejected under 35 USC § 101 as being directed to non-statutory subject matter. Claim 34 has been amended to address the rejection. Claim 35 has been canceled. Accordingly, Applicant requests that the rejection be withdrawn.

Claims 1-15 and 20-35 have been rejected under 35 USC § 103(a) as being unpatentable over Barker et al (US 5347139) in view of Davidson et al (US 4389670) and in further view of Hal et al. (No Patent Number cited). Applicants respectfully traverse these rejections for reasons set forth hereafter.

Initially, Applicant submits that a prima facie case has not been established under 35 U.S.C. § 103, because the Office Action has failed to show how the Examiner interprets Barker to teach all or a portion of the claims. Barker includes 7 figures, and each figure is fully labeled with reference numbers. However, the Office Action fails to cite to a single reference number or paragraph number in the Barker reference to support any of the rejections cited in the Office Action.

As stated in MPEP 706, “[t]he goal of examination is to clearly articulate any rejection early in the prosecution so that the applicant has the opportunity to provide evidence of

patentability and otherwise reply completely at the earliest opportunity. The Examiner then reviews all evidence, including arguments and evidence responsive to any rejections, before issuing the next Office Action.” (emphasis added). In this case, the Examiner has not clearly articulated the rejection.

The rationale for clearly articulating the rejection is further described in 37 C.F.R. 1.104 which states “(2) In rejecting claims for want of novelty or for obviousness, the examiner **must** cite the best references at his or her command. When a reference is complex or shows or describes inventions other than that claimed by the applicant, the particular part relied on must be designated as nearly as practicable.” (emphasis added).

In this case, the primary reference used to reject the claims, Barker is complex. Barker describes numerous images that are acquired using varying techniques, various imaging parameters, and at different times. However, the particular parts relied on in Barker to reject the pending claims has NOT been provided by the Examiner. For example, as discussed above, Claim 1 recites, among other things, acquiring a first image and a marked-up image. Moreover, Barker describes numerous images, e.g. a first latent image, a second latent image, a digital image, a first pattern image, etc. However, the Office Action fails to state which of the various images described by Barker are asserted to be equivalent to the first image and the marked-up image recited in Claim 1.

For example, to support this rejection, the Office Action asserts on Page 5, that Barker describes “the first exposure, image 1, is of the sample directly on the phosphor screen. The second exposure, image 2, is made with the appropriate absorption material between the sample and the screen. However, the terms “image 1” and “image 2” are not utilized in either the pending claims or Barker. In addition to failing to specifically state which images in Barker are being used to form the basis of the rejection, the Office Action also fails to provide a single paragraph or line number to enable the Applicant to understand the rejection. For example, to further support the rejection of Claim 1, the Office Action cites to Barker claim 10 which

describes both first and second latent images. However, the Office Action does not state anywhere in the rejection, that the first and second latent images of Claim 10 represent the images 1 and 2 as used in the rejection, or the first image or marked-up image as used in the pending claims. Applicant has therefore not been afforded a full and fair opportunity to respond to the rejection. Applicant further submits that any future correspondence that is not a Notice of Allowance should include the specific portions, i.e. exact name of the image used by Barker and the paragraph number, that are being cited to reject the pending claims.

Applicant further submits that Claim 1 is patentable over the cited art. Claim 1 recites a method of analysing a plurality of biological entities using an imaging apparatus. The method includes a) acquiring a first image of the biological entities, the first image being acquired prior to an introduction of a marker; b) adding the marker to said plurality of biological entities, said marker being capable of identifying objects within said plurality of biological entities when detected using the imaging apparatus; c) recording a marked-up image in which spatial definitions of said objects are identifiable from said marker; and d) generating a spatial definition for an object in said first image using data derived from said marked-up image.

Barker does not describe acquiring a first image of the biological entities prior to a marker being introduced. In contrast, in each of the embodiments described by Barker, exposures of samples are made after the targets have been tagged. For example, Barker describes that “the sample has a first label or tracer emitting radiation of energy E1, indicated by line 15 and a second label or tracer emitting energy E2, indicated by line 17. The storage phosphor recording sheet 21 is placed in direct contact with substrate 11. However, for purposes of illustration, the two are shown spaced apart. Once the exposure is complete, a latent image is stored on the storage phosphor 21. Thus, a first latent image is acquired after the tracer is added. Barker further describes that a second latent image is created after two tracers are added.

Barker also does not describe “recording a marked-up image in which spatial definitions of said objects are identifiable from said marker.” As discussed above, the Office Action does

not state which image in Barker is being asserted as equivalent to the marked-up image. However, Applicant submits that none of the images described by Barker provide spatial definitions. In contrast, utilizes a quantitative assessment to determine a quantity of isotope are in the target substances. Specifically, Barker is concerned with measuring the quantity of the tracer in the sample, NOT, the spatial extent or locational data of any of the objects in the target sample. Specifically, Barker teaches that “[t]he intensity or energy contribution of the substance tagged with the filtered tracer is then inferred and the amount of each tagged substance is known in a two-dimensional image.” Thus, Barker teaches a method to determine an amount of tagged substance in a sample NOT the spatial extent or location of the tagged substance. Moreover, the Office Action supports this conclusion. For example, the Office Action states on Page 5, that “[b]y using simultaneous equations isotope contributions of each label can be determined.”

Claim 1 further recites “generating a spatial definition for an object in said first image using data derived from said marked-up image.” Because Barker fails to generate a spatial definition or any spatial information at all, it necessarily follows that Barker can NOT generate a spatial definition in a first image using information from a marked-up image. Moreover, the Office Action concedes that neither Barker nor Davidson teach this claim element.

As best understood by the Applicant, at least a portion of the claims have been rejected based on a reference to “Hal et al.” Applicant submits that “Hal et al.” is not listed in the stated rejection on Page 5. Nor has any patent or application number been provided in the Office Action to enable the Applicant to verify the assertions regarding “Hal et al.” Applicant submits that is would not be proper to issue a Final Office Action in this case, because the Applicant has not been afforded an opportunity to review art forming the basis of the rejections. Therefore, the Applicant has not been afforded a fair opportunity to respond to the rejections. Because neither Barker nor Davidson describe the recitations of Claim 1, as admitted in the Office Action, Claim 1 is submitted to be patentable over the cited art. Claims 33, 34, and 37 are also considered to be in condition for allowance based on at least the reasons stated with respect to Claim 1.

Claims 2, 5-15 and 20-32 depend from Claim 1 and are therefore also considered to be patentable over the cited art. Additionally, there may be other reasons Claims 2, 5-15 and 20-32 are patentable over the cited art.

For example, Claim 2, as amended recites “acquiring an initial series of images before adding a marker and recording a marked up image, and applying the spatial definition to the initial series of images to enable an operator to evaluate changes in the object over time.” None of the cited art describes suing a marked-up image to apply spatial definitions to an initial series of images.

Claim 9, as amended, recites “e) recording a further image concurrently with the marked-up image; and f) deriving spatial definition data from said further image, and analysing said first image using the data derived from the further image.” The Office Action states that Barker allegedly teaches “the further image” recited in Claim 1. Applicant disagrees. To support this rejection the Office Action cites to Barker, Col. 2, lines 3-30. However, the Office Action again fails to specifically state which element of Barker is being cited to reject the claim. As discussed above with respect to Claim 1, Barker describes numerous images that are acquired using varying techniques, various imaging parameters, and at different times. However, the particular parts relied on in Barker to reject Claim 9 have NOT been provided by the Examiner. Accordingly, Applicant has been afforded a full and fair opportunity to respond to the rejection. Applicant further submits that any future correspondence that is not a Notice of Allowance should include the specific portions, i.e. exact name of the image used by Barker and the paragraph number, that are being cited to reject the pending claims.

Claim 10 recites “wherein said further image is recorded in a first colour channel and said marked-up image is recorded in a second, different colour channel.” Claim 11 recites “wherein said first image is recorded in said first colour channel.” However, both Claims 10 and 11, and numerous other rejections, have been rejected based on a citation to “Hal et al.” However, as discussed above, the Office Action does not provide a reference number to “Hal” to enable the

Applicant to respond to the rejection. Accordingly, any rejection based on "Hal" should be withdrawn.

In view of the foregoing comments, it is respectfully submitted that the cited art fails to anticipate or render obvious the claimed invention. Should anything remain in order to place the present application in condition for allowance, the Examiner is kindly invited to contact the undersigned at the telephone number listed below.

Respectfully Submitted,



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